FIN325 - Homework 1
Due : upload pdf to Canvas by September 22nd, midnight

Problem 1 (20pts)

A corporation has the option to prepay (call) a bond with 4 years to maturity, \$50M in remaining principal, a 10% yearly rate, fixed and yearly payments. It can replace this bond with a 4 year bond with the same remaining payment structure. Prepayment penalties are $c = \$500,000$.

How low must the yearly rate on the new bond be to justify calling the old bond (ignoring the option value of waiting to refi)?

Problem 2 (20pts)

In this question as in my cash-flow road map, all cash flows are understood to be cash flows from operations.

A corporation's trailing EBITDA ($EBITDA_0$) is $\$100M$. EBITDA will grow by 20% each year over the next three years. For instance, EBITDA in year 1 is $\$120M$. The corporation's investment in operating assets will be constant at $\$20M$ over each of the next three years while depreciation will be constant at $\$30M$. Its tax rate is 25%. The corporation has only one piece of debt, a fully amortizing loan with outstanding principal $\$50M$, an interest rate of 10%, and three fixed payments left to maturity: one payment in year 1, one in year 2, and one in year 3. There will be no other cash-flows during the entire time for this corporation.

What will the corporation's FCFE be in year 3?

Problem 3 (20pts)

This problem's goal is to compare and contrast the EBITDA multiples of Alphabet (GOOG) and Boston Properties (BXP).

1. Calculate each company's trailing 12-month EBIT and EBITDA using the standard approach. (Don't just report the EBIT and EBITDA Factset calculates, produce your own as we did in class, and yours will likley be different from FactSet's.)

2. Report the most recent EBITDA multiple computed by FactSet for both companies.

3. Give plausible reasons (no more than 3 sentences per company) for why both BXP and GOOG are both typically characterized by relatively high multiples.

Problem 4 (20pts)

Company XYZ just reported the following balance sheet and income statement for the past year:

Income statement	
Sales	6M
COGS	2M
SG&A	1M
Depreciation	2M
Interest paid	1M
Net Income before taxes	0M
Taxes on net income	0M
Net Income	0M

Assets		Liabilities and equity	
Cash	2M	Current liabilities (oper.)	2M
Other current assets	5M	ST Debt	5M
PP&E	10M	LT Debt	10M
Intangible Assets	7M	Preferred equity	2M
		Common equity	5M

1. Calculate and report the company's EBIT and EBITDA, using the common approach

2. The company is trading at a trailing EBITDA mutliple of 10. The market value of each of its liabilities equals their book value. All assets other than cash are operating. All current liabilities are operating as well. What is the <u>market</u> value of its common equity?

Problem 5 (20pts)

Download the 3-statement projection assignment dataset from my webpage. Fill-up all 3 statements for 2020 and 2021 given the assumptions and conventions provided at the top of the file. I strongly recommend you use the supporting schedule template provided at the bottom of the file as part of your calculations. In your printed answer, only show your completed statements.